

FIRST NESTING RECORDS OF THE MOUSTACHED ANTPITTA (*GRALLARIA ALLENI*)

JUAN F. FREILE^{1,3,4} AND LUIS MIGUEL RENJIFO²

ABSTRACT.—Here we describe the first nesting records of the Moustached Antpitta (*Grallaria alleni*). We found two nests in sub-Andean forests in the Central Andes of Colombia at 1,800 m and in northwestern Ecuador at 1,900 m elevation during November 1995 and March 1999. Both nests were bulky structures with an open deep cup, made with moist plant material, including damp dead leaves, fresh mosses, rootlets, and small stems and fibers. The eggs were aquamarine and the nestlings were covered by dark gray down and had vermilion bills and gapes. Nests of *G. alleni* are similar to the nests of the closely related *G. guatemalensis* in construction and dimensions. This note contributes new information on this endangered and poorly known species. Received 27 June 2002, accepted 17 December 2002.

The natural history of *Grallaria* species is poorly known due to their elusive behavior and preference for dense and dark understory (Wiedenfeld 1982, Kattán and Beltrán 1999). To date, nests of only 5 of the 31 existing species have been described, and nothing is known of the breeding biology of 11 species (Fjeldså and Krabbe 1990). Little information on nesting behavior of this genus has been published since the review by Wiedenfeld (1982; e.g., see Whitney 1992, Dobbs et al. 2001). Here we present a description of nests, eggs, and nestlings of the Moustached Antpitta (*G. alleni*).

Until recently *G. alleni* was known only from the type of the nominate subspecies and the type of *G. a. andaquiensis* (Hernández and Rodríguez 1979). It was recently rediscovered in Colombia (Renjifo 1999), and recorded for the first time in Ecuador (Krabbe and Coopmans 2000). The currently known distribution of this species includes both slopes of the Central Andes and the upper Magdalena Valley in Colombia, between 1,800 and 2,135 m elevation, and both slopes of the Andes in northern Ecuador, between 1,800 and 2,500 m (Krabbe and Coopmans 2000, Renjifo 2002, JFF unpubl. data). This species is considered endangered due to habitat destruction

(BirdLife International 2000, Freile 2002, Renjifo 2002).

On 23 November 1995, LMR found a nest with a recently hatched nestling and an egg in the Santuario de Flora y Fauna Otún-Quimbaya (04° 43' N, 75° 35' W), Risaralda Dept., at 1,800 m elevation, on the western slope of the Central Andes of Colombia. The nest was located in a small, flat valley surrounded by steep slopes inside secondary forest with canopy height approximately 13 m. The area was very close to old growth forest and to forest edge along an abandoned pasture, and just a few meters from a creek.

The nest was built within a hanging tangle of the epiphyte *Philodendron astatum* (Araceae) and to a lesser extent *Columnea* sp. (Gesneriaceae). The nest was a bulky, roughly spherical structure truncated at the top. It contained a deep cup lined with stiff plant fibers (mainly rootlets). It was constructed primarily of dead parts of *P. astatum* with small stems and leaves of other plants. Upper parts of the nest, including the sides of the cup, were lined with damp dead leaves of *P. astatum*, forming a compact structure (Fig. 1). It had an external diameter of 23 cm and an external height of 17.0 cm. The cup was 10.0 cm in diameter and 7.0 cm deep.

The nest was located 130 cm above the forest floor, supported by hanging stems of *P. astatum* and branches of a small shrub, close to the trunk of a small tree that supported the tangle of epiphytes, but not in contact with it. Owing to its shape, location, and construction material, the nest was well concealed and was very difficult to detect in the dark understory.

The egg was unmarked aquamarine and

¹ Dep. de Biología, Pontificia Univ. Católica del Ecuador.

² Inst. Alexander von Humboldt, Calle 37 #8-40, Bogotá, D.C., Colombia.

³ Current address: Fundación Numashir para la Conservación de Ecosistemas Amenazados, Casilla Postal 17-12-122, Quito, Ecuador.

⁴ Corresponding author; e-mail: jfreile@numashir.org



FIG. 1. Nest of Moustached Antpitta (*Grallaria alleni*) in dense understory vegetation. Santuario de Fauna Otún-Quimbaya, Risaralda, Colombia, 23 November 1995 (photograph by L. M. Renjifo).

measured 30.7 mm × 24.7 mm. The day after the nest was found the second egg had hatched. The nestlings had closed eyes, dark gray skin covered with dark gray down, and a prominent vitelline sac. The bill (except for a dark tip) and the gape were vermilion. Nestlings hid their heads under their own bodies when handled, as though to conceal the brightly colored bills. Two days after hatching, the nestlings weighed 12.0 and 13.5 g. Body measurements (in mm) were: culmen 8.0 and 9.3, tarsi 13.6 and 14.8, and wing 12.0 and 12.0, respectively.

At the time the nest was found an adult was on it. A few days later the adult was again observed sitting in the nest, with its head, neck, and upper mantle visible. Seven days after the second egg had hatched (5 December) the nest was found empty and tilted, suggesting that it had been preyed upon. Subsequently, the nest was collected and deposited at the Inst. de Ciencias Naturales of the Univ. Nacional de Colombia (ICN N-105). It belongs to the nominate subspecies *G. alleni al-*

leni. Otún-Quimbaya is <15 km north of the type locality; one specimen of this subspecies was collected by M. J. Braun on 30 May 1999 just a few hundred meters from the place where this nest was located, and deposited at Inst. Alexander von Humboldt (IAvH 10741).

On 8 March 1999 JFF found a nest of *G. alleni andaquiensis* with two nestlings at Bosque Integral Otonga, Cotopaxi Province, northwestern Ecuador (00° 25' S, 79° 00' W), at 1,900 m elevation. The nest was located in a wet secondary forest on a gentle slope. This forest had a fairly open understory (15–20% coverage), with shrubs, some moss-covered vines and epiphytes. The nest was 90 cm away from a frequently used path inside the forest.

The nest was a bulky structure with an open and deep rounded cup. It had a compact texture on the surface (Fig. 2). This nest was constructed primarily of leaf litter and rootlets, with a few dead sticks in the base. Externally, it was covered with plant fibers, rootlets and abundant live wet mosses, making it very dif-



FIG. 2. Nest of Moustached Antpitta (*Grallaria alleni*) with two nestlings 4–5 days old. Bosque Integral Otonga, Cotopaxi, Ecuador, 8 March 1999 (photograph by J. A. Chaves).

difficult to detect. On one side the nest had a small protruding platform made of densely woven, damp, dead leaves. The nest was built over a *Bohemeria* sp. (Urticaceae), a second growth shrub. It was supported by a mossy diagonal branch, and was covered by three other diagonal to almost vertical branches, 135 cm above the forest floor. It had an external diameter of 22.0 cm and an external height of 22.5 cm. The cup was 11.8 cm in diameter and 4.5 cm deep.

The nestlings were covered in dark gray down. They had feather sheaths on the wings, and a bright orange gape and mouth (Fig. 2). Judging from the descriptions given by Miller (1963) and Dobbs et al. (2001) for *G. guatemalensis*, these nestlings probably were 4–5 days old (i.e., closed eyes, slight development of wing feathers, begging behavior).

JFF observed two adult birds attending the nest and feeding the nestlings. The adults captured arthropods on the ground on trails

and forest floor. After feeding the nestlings, the adults usually remained motionless for several minutes on the protruding platform with their backs facing out, which completely concealed the nest entrance. There was very little vocal activity in the area. The nest was empty a week later (T. de Vries pers. comm.), suggesting that it probably had been depredated.

The nest at Otún-Quimbaya was found during the second rainy period of the year, and a juvenile was observed by LMR at the same locality on 5 July 1996 (at the beginning of the first dry season of the year). The nest at Otonga was found at the peak of the rainy season. These three records might suggest that the breeding season of the species coincides with rainy seasons.

Both nests described here were similar in construction and dimensions to the nests of *G. guatemalensis*, which is considered a closely related species (Hernández and Rodríguez 1979, Krabbe and Coopmans 2000). Nests of *G. alleni* tend to be bigger than those of *G. guatemalensis*, although with an overlapping range of measurements for: external height (mean = 14.5 cm \pm 4.7 SD, $n = 10$), cup depth (mean = 4.8 cm \pm 1.5 SD, $n = 10$), internal cup diameter (mean = 9.9 cm \pm 0.97 SD, $n = 8$), as well as height above forest floor (mean = 102.7 cm \pm 37.9 SD, $n = 9$). Nests of *G. alleni* were bigger than those of *G. guatemalensis* for external diameter (mean = 17.3 cm \pm 3.4 SD, $n = 10$; data from Edwards and Lea 1955, Miller 1963, Rowley 1966, Dobbs et al. 2001, F. G. Stiles pers. comm.). Nests of both species also were similar in terms of building material, shape, disposition, and habitat. Nests of *G. alleni* were built on branches or within tangles close to the trunks of small trees, consistent with most nests of *G. guatemalensis* reported in the literature (Dobbs et al. 2001, but see Edwards and Lea 1955, Miller 1963, Rowley 1966). One of the nests of *G. alleni* had abundant green mosses on the external surface, a feature that is shared with the nests of *G. guatemalensis* described by Dobbs et al. (2001). Habitat characteristics of the two *G. alleni* nests were similar to the nests of other *Grallaria* species, and are congruent with most previous nesting reports of the genus in terms of clutch size, color pattern of eggs, and coloration of

nestlings (Wiedenfeld 1982, Quintela 1987, Whitney 1992, Protomastro 2000).

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